

**BUREAU OF AUTOMOTIVE REPAIR**

**INITIAL STATEMENT OF REASONS**

**HEARING DATE:**

August 13, 2007

**SUBJECT MATTER OF  
PROPOSED REGULATIONS:**

Smog Check Program; Establishment of the Specifications and Procedures for a Visible Smoke Test; and Application of the Repair Cost Waiver Expenditure Limit to Smoke Test Failures

**SECTIONS AFFECTED:**

§§ 3340.42 and 3340.43 of Article 5.5 of Chapter 1, Division 33, Title 16, California Code of Regulations

**SPECIFIC PURPOSE OF REGULATORY PROPOSAL:**

This regulatory action implements the provisions of legislation chaptered in 2006<sup>1</sup> by incorporating a visible smoke test into the current Smog Check inspection procedures. This will be accomplished by adding specific requirements for performing the visible smoke test to provisions specifying other general elements and procedures of the Smog Check inspection.

The proposed action will also establish specific conditions and qualifications that must be met by the owners of vehicles that fail the visible smoke test in order to be eligible for a repair cost waiver.

The proposed action also includes several minor technical, grammatical and editorial changes that have no regulatory effect or that are conforming.

The proposed action will make the following changes to existing regulation:

1. Amend Section 3340.42 of Article 5.5 of Chapter 1, Division 33, Title 16, California Code of Regulations, as follows:
  - a. The entire section will be reorganized. Some subsections will be relocated and renumbered. Some paragraphs and subparagraphs will become subsections and others will be consolidated in new subsections. For example:

(1) Paragraph (1) of subsection (a) will become subsection (a) and paragraph (2) of

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<sup>1</sup> Chapter 761, Statutes of 2006 (AB 1870, Lieber)

subsection (a) will become a new subsection (b).

(2) Paragraph (3) of subsection (a) will become a new subsection (c) and the current paragraph 4 of subsection (a) will become paragraph (3) of the new subsection (a).

(3) The current subsection (b) will become subsection (d).

(4) A new subsection (e) will be added, as discussed further below.

(5) The current subsection (c) will be relocated to the end of Section 3340.42, will be renumbered subsection (g), and the redundant provisions of paragraph (5) will be deleted.

(6) The current subsection (d) will become subsection (f).

The reorganization of this section, including the relocating and renumbering of various subsections, is merely an editorial change intended to improve the flow, clarity and readability of Section 3340.42, and has no regulatory effect. Similarly, the deletion of paragraph (5) of the current subsection (c) is an editorial change intended to eliminate an unclear and redundant statement, which also has no regulatory effect.

b. A new subsection (e) will be added to require the performance of a visible smoke test as part of every Smog Check inspection beginning January 1, 2008, and to establish the conditions and procedures for performing the test, as follows:

(1) The test for visible tailpipe smoke shall be performed immediately following the tailpipe emissions phase of the smog check inspection. The vehicle's engine shall be running at idle. The technician performing the test shall exit the vehicle, go to the tailpipe area of the vehicle, remove the emissions inspection system exhaust probe from the tailpipe, and observe the tailpipe area for at least 10 seconds. If the technician observes smoke, the vehicle fails the visible smoke test and the failure shall be entered into the emission inspection system, as specified.

Visually testing for smoke at the conclusion of the low speed emissions test has been determined to be the most practical for the technician, as well as the least intrusive to the overall test process.

This is the safest and most practical procedure to observe tailpipe smoke. Impractical alternatives require a second technician to operate the vehicle while the primary technician observed the tailpipe for smoke or required a mirror to observe the tailpipe from the driver's seat. The law does not allow additional equipment for this test and requiring an additional technician is not practical for stations with only one employee.

Checking for smoke after the emissions phase fits into the test sequence because the technician is already observing the tailpipe at this point. Specifying the exact time to conduct the test provides precise direction for technicians that is more easily enforced by BAR. The engine must be running to produce smoke and will only run at idle when the technician observes the tailpipe and crankcase areas for smoke. Observation for 10 seconds is required to notice intermittent smoke and helps ensure the technician makes a dedicated effort at observation and not just a glance.

- (2) The test for visible smoke emanating from the crankcase shall be performed during the under hood portion of the visible fuel leak inspection specified in this section. The crankcase and PCV systems shall not be disconnected during this phase of the visible smoke test. With the vehicle's engine running at idle, the technician shall observe the crankcase and PCV systems for at least 10 seconds. If the technician observes smoke emanating from the vehicle's crankcase or PCV systems, the vehicle fails the visible smoke test and the failure shall be entered into the emission inspection system, as specified.

Visually testing for crankcase smoke during the liquid fuel leak phase for the under-hood visual inspection has been determined to be the most practical for the technician, as well as the least intrusive to the overall Smog Check inspection/test process.

While not specifically mentioned in Section 44012.1, reference to the Positive Crankcase Ventilation (PCV) system is included in relation to the examination of the crankcase because the PCV system is an integral part of the complete crankcase system. The PCV system is an extension of the engine's crankcase that draws crankcase vapors from the crankcase and channels them into the intake manifold. In the intake manifold these vapors are mixed with incoming fresh air and fuel to be burnt in the combustion chamber of the engine. Since the crankcase is otherwise sealed, the only place a technician would expect to observe smoke emanating from the crankcase would be at the location of the PCV system.

- (3) If no smoke is observed emanating from the vehicle's tailpipe, and if no smoke is observed emanating from the PCV or crankcase systems, the vehicle passes the visible smoke test and the technician shall enter that result into the emissions inspection system, as specified. However, this entry shall be superseded by an entry for any failure that would normally be recorded in the same category.

The visual inspection result must be entered into the "other" visual inspection category because a specific smoke data collection field does not currently exist in the Smog Check test equipment software. Keeping with the original intent of this prompt, other emission related component failures take precedence over a smoke failure, therefore must be entered first. In other words, if a vehicle has a missing, modified, disconnected, or defective visual inspection item, it shall be entered before a failing smoke entry.

- (4) Smoke that is observed emanating from any area of a vehicle other than the vehicle's tailpipe, or crankcase or PCV systems, regardless of the cause, shall not constitute a failure of the visible smoke test.

Section 44012.1 of the Health and Safety Code provides that the visible smoke test applies only to smoke emanating from the crankcase or tailpipe of a vehicle. This clarification is being included in order to avoid unnecessary confusion, misinterpretations and inappropriate/unauthorized test failures.

- (5) If the vehicle fails the visual smoke inspection, the technician shall: document the failure by writing or stamping on the VIR that is given to the customer and the VIR that is retained by the station, in the "Other Emission Related Components" section, "Failed for visible smoke," or "Failed visual smoke test;" and provide to the customer BAR's *Visible Smoke Test Failure Consumer Information Sheet*, form SMOKE INFO (01/07), with the applicable items completed on the check lists. BAR will furnish stations with a supply of information sheets.

The technician must accurately document the results of the visual smoke inspection on the Vehicle Inspection Report in order to properly document the test results because the current EIS does not have the capability of consistently compiling that data. Completing the Customer Information Sheet, form SMOKE INFO (01/07), will identify the location of the smoke failure and provide the customer with other information to assist in obtaining appropriate repairs.

- (6) For the purposes of this subsection:

- (A) "Tailpipe" means anywhere the vehicle's exhaust is designed to exit the vehicle under normal conditions.
- (B) "Unobstructed view" means that there is nothing in the shop environment, which prevents the technician from observing the exhaust emitting from the vehicle's tailpipe.

The definitions for both "tailpipe" and "unobstructed view" provide a uniform interpretation and meaning for these two subjects. This will minimize confusion as to what is expected from the technician in order to perform the test.

- c. Other minor conforming, grammatical and editorial changes that have no regulatory effect are also included.
2. Add Section 3340.43 to Article 5.5 of Chapter 1 of Division 33 of Title 16 of the California Code of Regulations, as follows:

The addition of this section provides that the owner of a motor vehicle that has failed the visible smoke test shall only be eligible for the repair cost waiver specified in subdivision (a) of Section 44017 of the Health and Safety Code under the following conditions:

- a. The owner has a household income greater than the income eligibility limit for CAP RA, but equal to or less than two hundred fifty percent (250%) of the federal Poverty Guidelines (FPG), as published by the U.S. Department of Health and Human Services; and
- b. The owner's household income has been verified in accordance with Section 3394.6; and
- c. The owner is not receiving any form of public assistance from any agency; and
- d. The vehicle's required emissions control equipment is not missing and has not been rendered inoperative.

The 250% FPG standard for smoking vehicle waiver participation represents the most workable compromise of several alternative options. The 250% FPG proposal will allow the department to meet AB 1870's requirements for a near low-income category and at the same time, not overly complicate the process.

### **FACTUAL BASIS:**

The Bureau of Automotive Repair (BAR), located within the Department of Consumer Affairs (DCA), is the state agency charged with the administration and implementation of the Smog Check Program (Program). The Program is designed to reduce emissions from mobile sources, such as passenger vehicles and light trucks, by requiring that these vehicles meet specific in-use emissions standards as verified by periodic inspections. To ensure uniform and consistent vehicle testing, BAR licenses Smog Check stations and technicians and certifies inspection equipment. Existing law:

1. Generally requires vehicles that are registered in nonattainment areas for ozone or carbon monoxide pollutant emissions to undergo biennial inspections of their emission control equipment and systems (smog check).
2. Authorizes BAR to enforce and administer the smog check program to ensure the reduction of gaseous emissions of hydrocarbons, carbon monoxide, and oxides of nitrogen. Particulate matter (PM), although a component of the exhaust smoke, is not a component of the existing smog equipment measurements.
3. Prohibits vehicles from being operated in a manner that results in the escape of excessive smoke from vehicles and authorizes law enforcement to issue citations to violators operating vehicles that smoke excessively.

4. Authorizes vehicle repair cost waivers after an owner spends at least \$450 for repairs, including parts and labor. A waiver allows a vehicle owner to register the vehicle, even if it does not pass a smog inspection. A vehicle owner may apply for only one repair cost waiver for the life of a vehicle. Failures resulting from emissions control equipment that is missing or that has been tampered with are not subject to a repair cost waiver.

AB 1870 added a requirement that BAR include a visual test for visible smoke in the Smog Check inspection procedures to determine the presence of smoke in automobile exhaust. It also made changes that affect the eligibility for a repair cost waiver when a vehicle fails the visible smoke test. Specifically, this bill:

1. Requires BAR, by January 1, 2008, to incorporate a visual inspection procedure for smoke during the Smog Check inspection.
2. Requires BAR to consult with ARB and interested parties, in developing and adopting regulations that implement the visual inspection procedure for smoke.
3. Provides that any visible smoke from the tail pipe or crankcase of a motor vehicle constitutes a failure of the Smog Check inspection and specifies that steam from condensation does not constitute an inspection failure for smoke.
4. Provides recourse to the owner of a vehicle that does not pass the Smog Check inspection to appeal the determination to a state-designated referee.
5. Provides that no repair cost waiver may be issued for a vehicle that has failed the visible smoke test unless the vehicle is owned by a low-income person, as defined.
6. Requires BAR, by January 1, 2008, to adopt regulations for vehicles that fail the visible smoke test, allowing a repair cost waiver for individuals under economic hardship who do not meet the definition of low-income person, as specified.
7. Provides that no new equipment may be required to implement the visible smoke test.
8. Provides that if the implementation of the visible smoke test requires updated EIS software or changes to the vehicle information database, that those changes be performed at the time of the ordinary, periodic upgrades of those systems.

### **Visible Smoke Test**

Currently, it is possible for a smoking vehicle to pass the smog check inspection. The current Smog Check inspection measures exhaust and some evaporative emissions (gaseous emissions of hydrocarbons, carbon monoxide, and oxides of nitrogen), but does not test for particulate matter or tail pipe smoke. According to the Inspection and Maintenance Review Committee (IMRC), “due to the chemical composition of the smoke, the Emissions Inspection System used in smog check stations cannot measure smoke that results from a vehicle burning excessive amounts of motor oil. Therefore, it is possible for a smoking vehicle to be issued a Certificate of

Compliance after passing a smog check inspection and continue to pollute the air with harmful emissions, especially particulate matter.” Further, BAR notes that while burning oil would produce extra hydrocarbons, they may not reach the threshold at which the vehicle would fail the tailpipe portion of the Smog Check inspection. Also, the vehicle’s catalytic converter (emissions control device) could eliminate or reduce the hydrocarbons but still allow the smoke particles to pass through.

According to the Bay Area Air Quality Management District, “smoking vehicles emit roughly 1.6 million tons annually of fine particle pollution. These particles are taken deep into the respiratory system, and are linked to a host of respiratory and other health problems. Recent studies have shown tailpipe smoke to be particularly toxic, and composed primarily of byproducts of lubricating oil combustion.”

AB 1870 implemented a recommendation identified in a joint report by the California Air Resources Board (CARB) and BAR (September 2005), as well as a report prepared by the IMRC. The IMRC report recommended that BAR be statutorily authorized to implement a visual smoke inspection procedure as a component of the Smog Check inspection. In addition, the report states that the smoke inspection procedure should not require additional equipment purchases by smog check stations since a test that relies exclusively on the technician's observations of the exhaust is adequate for this purpose.

The joint CARB/BAR report estimates that only a small fraction of the fleet (about 200,000 vehicles) emits excessive smoke. In addition, the report indicates that “the addition of a smoke test conceivably increases the amount of time required to conduct a smog check inspection. Therefore, smog check stations may initially increase the smog check inspection price by \$1 – \$2 each, as has occurred for previous additions to the testing procedure. As smog check technicians gain experience in the new procedure, the price invariably decreases due to market pressures.”

### **Eligibility for the Repair Cost Waiver**

AB 1870 eliminated repair cost waivers for smoking vehicles, but required the Department to adopt regulations allowing a one time repair cost waiver for individuals under economic hardship who do not meet the definition of low-income person. This category of consumer is defined as: “...*individuals under economic hardship but who do not meet the definition of low-income person, as defined in Section 44062.1 ...[and] whose household means fall below the level necessary to achieve a modest standard of living without assistance from public programs.*” Currently, the Consumer Assistance Program (CAP) utilizes 225% of the FPG as the standard for participation in its low-income repair assistance option.

To determine the waiver eligibility for the purpose of AB 1870, BAR researched data from sources such as the United States Census Bureau and the California Budget Project (CBP) has provided estimates for income levels required to maintain “a modest standard of living” in California for a single adult, and various sized families. In 2005, the CBP published *Making Ends Meet: How Much Does It Cost To Raise A Family in California?* to establish realistic “cost-of-living” figures by county and by family size. The data was compiled from Census sources, and takes into consideration a broad range of factors such as child care costs, health care

costs, transportation, taxes, rent costs adjusted for location and various others not always considered in the FPG. The report estimates monthly expenses for households ranging from single person to two parent/two children families, to meet a basic standard of living, without public or private assistance. Using this methodology would require establishing different criteria for each geographical region identified by the CBP, as well as different standards for individuals, families with children, families without children, etc. This approach would create a highly complex and burdensome process that would be difficult to administer and maintain. The disparity between the California Budget Project basic standard of living without public or private assistance, and CAP's eligibility requirements of 225% of FPG, can be best alleviated by the adoption of a 250% of FPG threshold for the AB 1870 near low-income repair cost waiver eligibility standard.

### **Underlying Data:**

Technical, theoretical or empirical studies or reports relied upon:

1. Chapter 761, Statutes of 2006 (AB 1870, Lieber)
2. *April 2004 Evaluation of the California Enhanced Vehicle Inspection and Maintenance (Smog Check) Program*; Report to the Legislature, California Air Resources Board and Department of Consumer Affairs/Bureau of Automotive Repair, September 2005 (Final)
3. *Review of the Smog Check Program 2004*, California Inspection and Maintenance Review Committee, (undated)
4. *Vehicle Exposures and Potential Mitigations Downwind of Watt Avenue, Sacramento, CA*, Prof. Thomas A. Cahill, and the DELTA Group, University of California, Davis, October 23, 2006
5. U.S. Department of Health and Human Services Poverty Guidelines, Federal Register, Vol. 72, No. 15 / Wednesday, January 24, 2007, pp. 3147 – 3148.
6. *Making Ends Meet: How Much Does it Cost to Raise a Family in California*, California Budget Project, Revised November 2005.
7. *Public Assistance Facts and Figures*, State of California Health and Human Services Agency, July 2006
8. *New Census Data show Few Gains For California*, California Budget Project, Aug 2006
9. *California Mapstats*, U.S. Census Bureau, Bureau of Labor Statistics, Bureau of Economic Analysis, National Center for Health Statistics, Oct 2006

### **Business Impact:**

These regulations will not have a significant adverse economic impact on businesses. This



initial determination is based on the following facts or evidence/documents/testimony:

### **Visible Smoke Test**

The fact that this test does not add significant time to the inspection and does not require any additional equipment suggest that these regulations will not have a significant adverse impact on inspection businesses. The Smog Check industry may incur some minor costs in training technicians to perform smoke inspections, but this would be more than offset by additional repair revenue potentially generated from repairing vehicles that fail the smoke test. In addition, a few vehicle-recycling businesses may actually see increased revenue due to additional motorists qualifying for the CAP Vehicle Retirement option.

### **Eligibility for the Repair Cost Waiver**

The business impact of extending one time repair cost waiver eligibility to near low-income consumers cannot be determined until the number of vehicles failing Smog Check *strictly* for visible smoke can be determined. It is difficult to estimate the number of consumers in the near low-income group, or how many would opt for the one time repair cost waiver, as opposed to the Vehicle Retirement or Repair Assistance options of the CAP. However, the potential for the automotive repair industry to realize an increase in revenue from the repair of those vehicles may offset any adverse economic impact created by the extension of repair cost waiver eligibility to near low-income consumers.

### **Specific Technologies or Equipment:**

These regulations do not mandate the use of specific technologies or equipment.

### **Consideration of Alternatives:**

No reasonable alternative to the regulation would be either more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed regulation.

Set forth below are the alternatives which were considered and the reasons each alternative was rejected:

### **Visible Smoke Test**

1. BAR considered USEPA smokestack inspection procedures, however these are not suitable to the garage environment. Specifically, the USEPA Method 9, used to visually determine opacity of emissions from a stationary source, requires qualified observers to be tested and certified every six months. Also, this method enables the observer to assign opacity readings in 5 percent increments, which is excessive when the Visible Smoke Test only checks for the presence of smoke.

2. BAR considered procedures that would have required additional equipment or a second technician which are not allowed in the law and not practical for stations with only one employee.

### **Eligibility for the Repair Cost Waiver**

1. BAR considered maintaining the 225% of FPG, as currently utilized by the Consumer Assistance Program, as the threshold for near low-income repair cost waiver eligibility. (The near low-income group would be defined as: 185% of FPG to 225% of FPG.) This was rejected on the grounds that it did not provide additional consumer protection and would not lessen the impact of the visible smoke test on many lower income consumers as mandated by AB 1870.
2. BAR considered creating new eligibility guidelines by family size and household income based upon California Budget Project (CBP) studies. This would require establishing different criteria for each geographical region identified by the CBP, as well as different standards for individuals, families with children, families without children, etc. This alternative was rejected because it would create a highly complex and burdensome process that would be difficult to administer and maintain.